

Appln. of: Mills
Serial No.: 10/710,723
Filed: July 30, 2004

REMARKS

Reconsideration and allowance are respectfully requested.

Claims 1-17 and 39-70 are pending in this application.

Claims 53-70 have been allowed.

Claims 1-3, 4/1-4/3, 5/1-5/3, 8/1-8/3, 9/1-9/3, 10/1-10/3, 11/1-11/3, 12/1-12/3, 13/1-13/3, 39/1-39/3, 40/39/1-40/39/3, 41/39/1-41/39/3, 43/39/1-43/39/3, 44/39/1-44/39/3, and 52/39/1-52/39/3 stand rejected under 35 USC 102(b) as being anticipated by Kuethe

The Examiner has stated that the megapascals limits of claims 1-3 are purely intended use and not to be given patentable weight. Claims 1-3 have been amended to overcome the Examiner's position.

Claim 1 has been amended to require:

1. (Currently Amended) A method for limiting stress levels in an aircraft-powering turbofan assembly by controlling unstable movement of laminar-to-turbulent boundary layer transition on fan blades of the turbofan assembly during aircraft flight, said method comprising: including on a flying aircraft, an aircraft-powering turbofan assembly comprising multiple fan blades mounted on a fan disc and each of said fan blades having a leading edge, a trailing edge, and two side surfaces that comprise a high-pressure side surface and a low-pressure side surface, each blade also having a relatively long chord length, said turbofan assembly being configured such that a laminar-to-turbulent boundary layer transition range occurs on the low-pressure side surface of each of said fan blades during flight; providing and wherein a plurality of said fan blades each with are each adapted to further comprise a laminar-to-turbulent boundary layer transition control feature at the low-pressure side surface of the respective fan blade, positioning each said control feature on the respective blade at a position that will initiate each of said control features initiating and positionally stabilize the stabilizing a laminar-to-turbulent boundary layer transition to a location upon the respective fan blade between said control feature and the respective fan blade's trailing edge so that will substantially maintain an aggregate limited stress occurring in the turbofan assembly at a mounting of the respective fan blade to the fan disc is substantially maintained below fifty megapascals during flight within the aircraft's operating envelope.

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As amended the 50 megapascals limit of claim 1 cannot be interpreted as an intended use. Rather, such figure is the determinative factor for the claimed method by which the position of the laminar-to-turbulent boundary layer transition control feature is determined/adjusted. Such a control feature can be placed on the blade between the leading edge and the trailing edge but it is being used to trigger a laminar to turbulent transition of the flow on the blade so that the inherent oscillatory laminar to turbulent transition is reduced. However, positioning the control feature far forward to ensure control of the inherent oscillatory laminar to turbulent transition of the blade reduces the efficiency of the blade and thus the turbine because of the greater amount of turbulent flow, while positioning the control feature too far rearward will reduce or negate its effect on the controlling the inherent oscillatory laminar to turbulent transition of the blade.

Thus, the required force limit is not an intended use or result; it is the determining factor by which the control feature is positioned to achieve a desired mix of efficiency and limited destructive forces.

Claims 2 and 3 have been amended similarly.

As noted previously, nothing in Kuethe discloses or suggests such missing limitations or the method of using such factors for determining a positioning of the laminar to turbulent boundary layer control feature. Kuethe is silent on an oscillatory laminar to turbulent transition of the blade and there is nothing in Kuethe that would lead a person of ordinary skill in the art to determining the claimed method. not believe there is any such inherent disclosure.

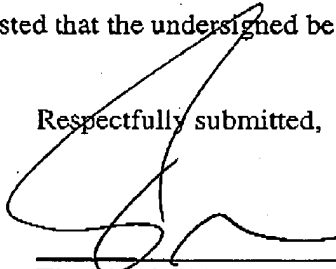
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For these reasons, Kuethe does not anticipate or render obvious claims 1-3 and it is respectfully requested that such rejections be withdrawn.

The remaining claims all depend from claims 1-3 and are believed allowable for the same reasons as given above with respect to claims 1-3, as well as for the further limitations contained therein. Therefore, it is respectfully requested that the remaining rejections of the claims be withdrawn as well.

In view of the above, it is believed that the application is in condition for allowance and such a Notice is respectfully requested. If anything else is needed to place the application in condition for allowance, it is kindly requested that the undersigned be contacted.

Respectfully submitted,



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